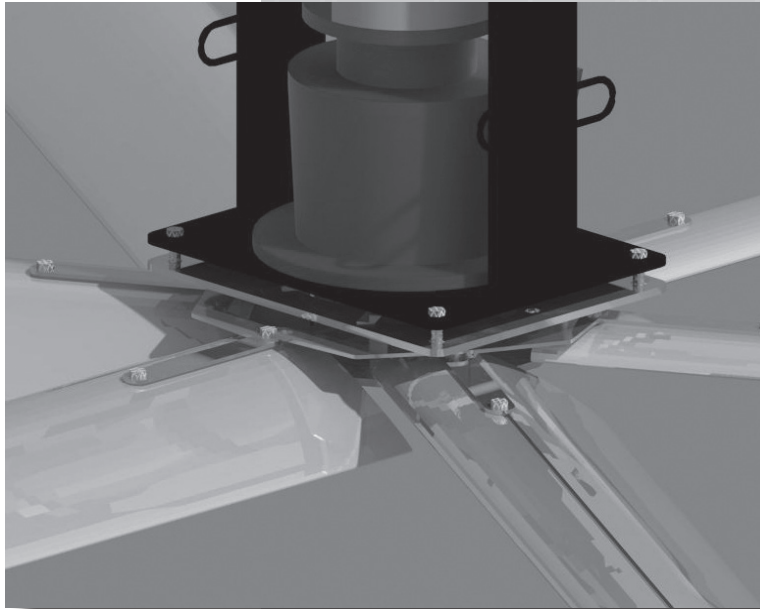


SKYBLADE STOL SERIES

Patent pending

12'-24'



INSTALLATION MANUAL

Custom Designed

Reduced Maintenance

STOL Technology



SkyBlade
FAN COMPANY

WHERE FORM FOLLOWS FUNCTION

www.SKYBLADEFANS.com



Intertek



IMPORTANT

READ AND SAVE THESE INSTRUCTIONS.

A printable, electronic version is available online at skybladefans.com.

WARNING/ AVERTISSEMENT



Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read and understand the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

Une installation, un réglage, une modification, un service ou d'entretien peuvent causer des dommages matériels, des blessures ou la mort. Lire et comprendre les instructions d'installation, d'exploitation et d'entretien avant d'installer ou de réparer ce matériel.

To Reduce the Risk of Fire, Electric Shock, or Injury to Persons, Observe the Following:



Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction. Failure to comply could result in personal injury, electric shock, death, fire and/or property damage.

Before attempting installation, servicing or cleaning unit, switch power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally.

Pour réduire le risque d'incendie, de choc électrique ou de blessures, observer les points suivants:

Les travaux d'installation et le câblage électrique doivent être effectués par une personne qualifiée (s) en conformité avec tous les codes et normes applicables, y compris la construction coupe-feu. Le non-respect peut entraîner des blessures corporelles, de choc électrique, la mort, un incendie et / ou des dommages matériels.

Avant d'entreprendre l'installation, l'entretien ou un nettoyage, coupez l'alimentation électrique au panneau de service et bloquez les dispositifs de sectionnement pour éviter une mise en marche accidentelle.



IMPORTANT

CAUTION/ATTENTION

The installation must be in accordance with the requirements specified in this installation manual and with any additional requirements set forth by the national electric code (NEC), ANSI/NFPA 70-1999, and all local codes. Failure to comply with these codes could result in personal injury or property damage.

L'installation doit être en conformité avec les exigences spécifiées dans le présent manuel d'installation et avec des exigences supplémentaires prévues par le code électrique national (NEC), ANSI / NFPA 70-1999, et tous les codes locaux. Le non respect de ces codes peut entraîner des blessures ou des dommages matériels.

The installation of this fan requires the use of power tools. Follow the safety procedures found in the owner's manual of these tools and do not use them for purposes other than those intended by the manufacturer.

L'installation de ce ventilateur nécessite l'utilisation d'outils électriques. Suivez les consignes de sécurité figurant dans le manuel du propriétaire de ces outils et ne pas les utiliser à des fins autres que celles prévues par le fabricant.

This unit has an unguarded impeller. Do not use in locations readily accessible to people or animals.

Cet appareil possède une roue sans surveillance. Ne pas utiliser dans des endroits facilement accessibles pour les personnes ou les animaux.

Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. The limited warranty does not cover equipment damage or failure that is caused by improper installation.

Utiliser cet appareil uniquement de la manière prévue par le fabricant. Si vous avez des questions, contactez le fabricant. La garantie limitée ne couvre pas les dommages à l'équipement ou de l'échec qui est causé par une mauvaise installation.



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SKYBLADE® and **SKYBLADE FANS®** are the trademarks of Skyblade Fans.

STOL Control and Power Assembly (*patent pending*)

Model	Description	Length (Y)	Width (X)	Height (Z)	Shipping Weight
STOL	Control & Airfoil Assembly	33.0" (839mm)	30.5" (775mm)	30.5" (775mm)	145 lbs. (65 kg.)

STOL Airfoils (*patent pending*)

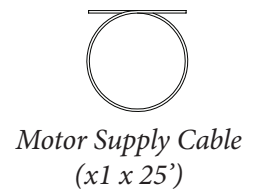
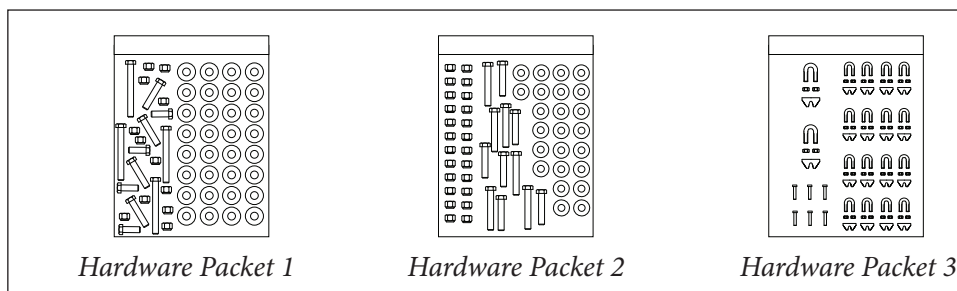
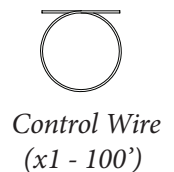
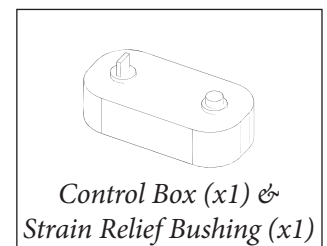
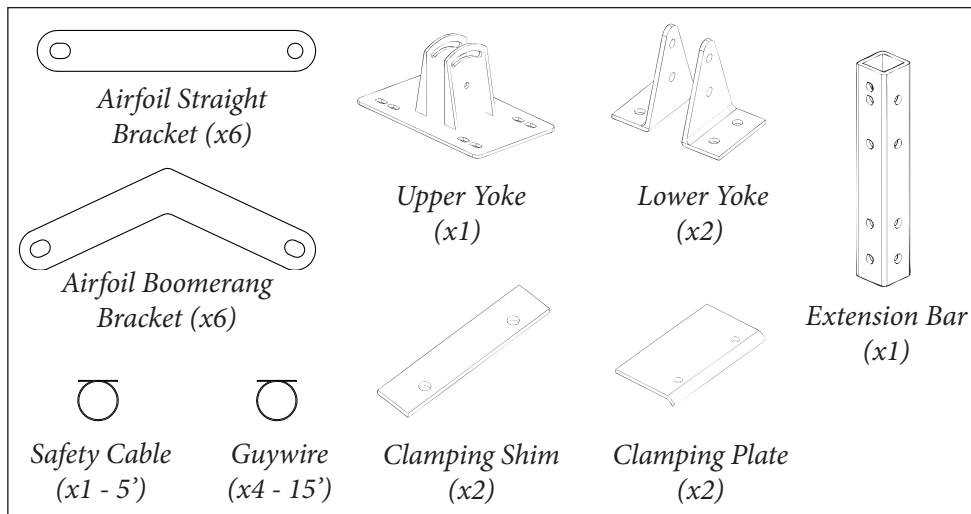
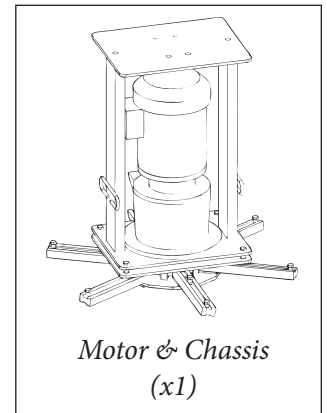
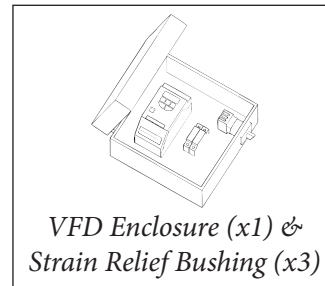
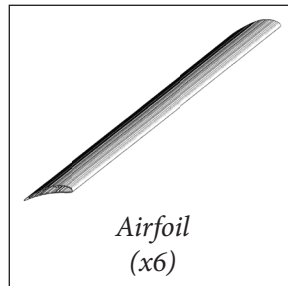
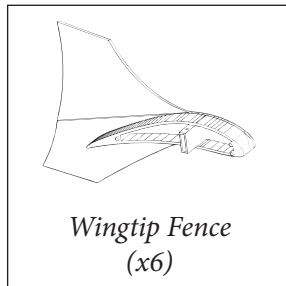
Model	Description	Width (X)	Length (Y)	Height (Z)	Shipping Weight
1236-6	12' / 3.6M Fan	5'-6" (1680mm)	24.0" (610mm)	17.0" (432mm)	125 lbs. (57 kg.)
1443-6	14' / 4.3M Fan	6'-6" (1982mm)	24.0" (610mm)	17.0" (432mm)	140 lbs. (64 kg.)
1649-6	16' / 4.9M Fan	7'-6" (2286mm)	24.0" (610mm)	17.0" (432mm)	155 lbs. (71 kg.)
1855-6	18' / 5.5M Fan	8'-6" (2591mm)	24.0" (610mm)	17.0" (432mm)	170 lbs. (77 kg.)
2061-6	20' / 6.1M Fan	9'-6" (2896mm)	24.0" (610mm)	17.0" (432mm)	185 lbs. (84 kg.)
2473-6	24' / 7.3M Fan	11'-6" (3505mm)	24.0" (610mm)	17.0" (432mm)	215 lbs. (97 kg.)

WHAT'S IN THE BOX

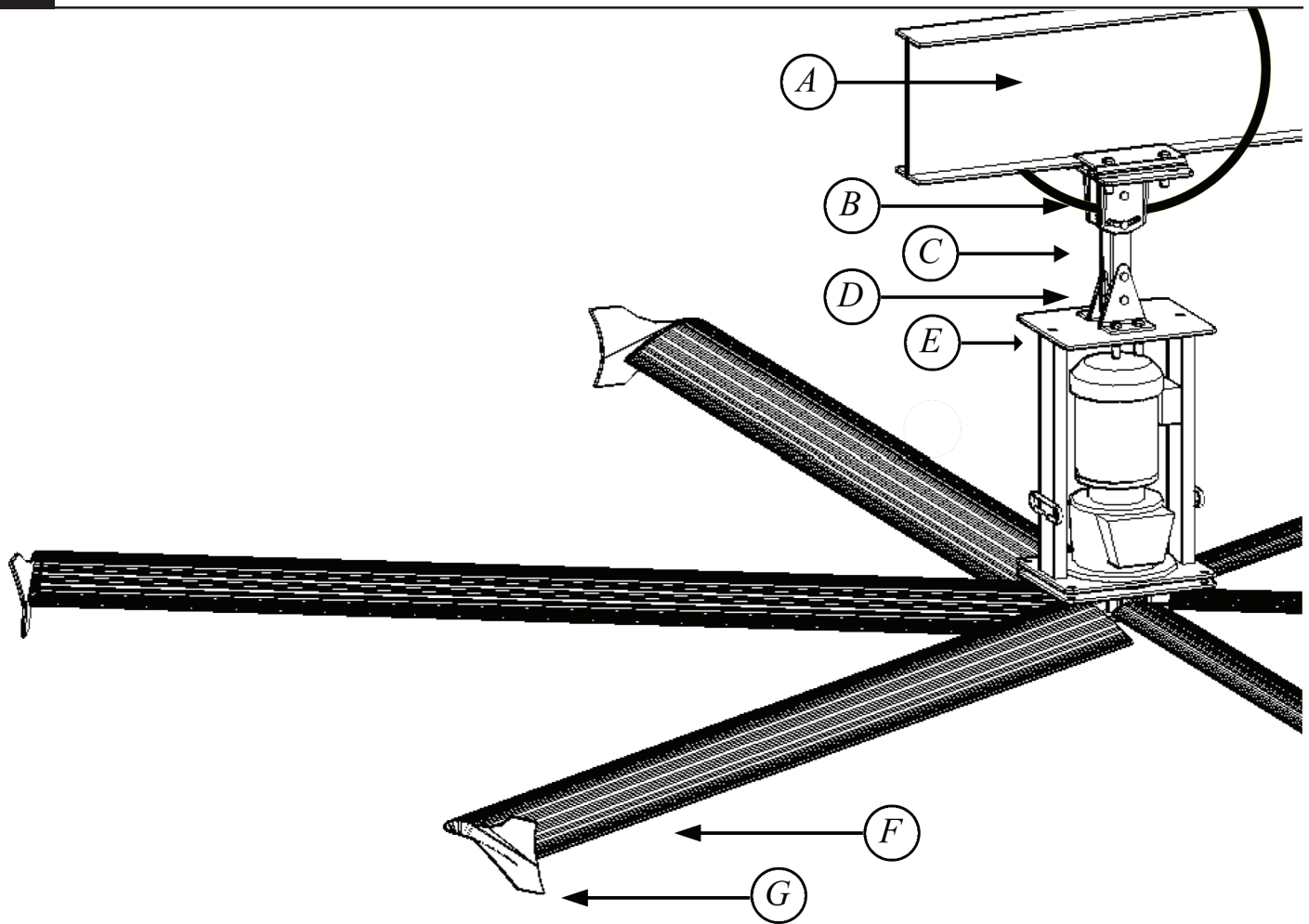
Prior to installation, verify that you have received all fan contents included with your system by checking them against the packing list. Materials not included in the fan contents (e.g., Grade 8 hardware, etc.) are the responsibility of the installer. Notify your product representative or Skyblade Fan Company of any discrepancy or missing kit contents prior to installing unit.

6	#6 x 5/8"	Flat Phil Screw
4	1/2"-13x2-1/2"	GR5 Bolt
4	1/2"-13x3-1/2"	GR5 Bolt
4	1/2"-13x1-1/2"	GR5 Bolt
24	1/2"	Flat Washer
12	1/2"-13	Nylock

6	5/16"-24x2"	GR5
6	5/16"-24x1-3/4"	GR5
24	5/16"	Flat Washer
12	5/16"-24	Nylock
2	5/16"	Wire Rope Clip
16	1/8"	Wire Rope Clip



1 FAN DIAGRAM



- A. Safety Cable:** Used as a redundant safety feature that secures the fan to the mounting structure.
- B. Upper Yoke:** Secures the fan to the structure and allows the fan to hang in a vertical direction.
- C. Extension Bar:** Extends the fan from the ceiling to reach optimum operating height.
- D. Lower Yoke:** Connects the chassis to mounting assembly.
- E. Chassis:** Housing for the motor and gear reducer
- F. Airfoil:** Provides air movement.
- G. Wingtip Fence:** Improves air movement efficiency by reducing drag.

Series	STOL	STOL	STOL	STOL	STOL	STOL
Diameter	12' / 3.6M	14' / 4.3M	16' / 4.9M	18' / 5.5M	20' / 6.1M	24' / 7.3M
Blades	6	6	6	6	6	6
Voltage Input	115 230 460 575	115 230 460 575	115 230 460 575	115 230 460 575	115 230 460 575	115 230 460 575

Model Number Ordering Format: SERIES-DIAMETER-BLADES-INPUT VOLTAGE-PHASE

Sample Model Number: STOL-1649-623-1

2.1 Skyblade Safety Components

Skyblade fans are designed with redundant safety features to provide protection in the unlikely event of a catastrophic failure. Follow installation instructions carefully when installing fans.

2.2 Fan Spacing's and Placement

A standard ceiling fan should be mounted so that the bottom of the fans hub is 38 inches below the bottom of the beam which it is mounted. Fan blades should be mounted between 10' and 50' above the floor with optimum height between 20'-30'. If desired, extension bars are available to lower the fan if needed. Avoid mounting fans directly below lights or skylights to avoid a strobe effect caused by the moving blades.

When mounting a fan in an area where objects may be lifted or moved into the path of the fan, Skyblade Fans recommends marking or painting hash lines on the floor to alert personnel of the above movement of the fan.

The area within 15% of the diameter when the fan is at rest is considered "close clearance". It is extremely dangerous to mount the fans within "close clearance" of any object or path of object. We strongly recommend not mounting the fan closer than 15% of its diameter to any object or its path. If this is an issue, mounting extension bars and smaller fans are available from Skyblade Fans.

2.3 Fire Suppression Systems and Fan Placement

If installing Fans in a location where fire sprinklers are in place, do not interfere with their correct operation. Fans should be located in the center of each sprinkler quadrant and no less than 3 feet below the sprinkler. Review all codes applicable to sprinkler systems prior to installation; it is the customer's responsibility to see that the installation is completed to code and that it is correct.

2.4 Locating Control Panels

Each fan has its own motor control enclosure (MCE). Each MCE must be located no less than 5 feet outside maximum blade length, and within 25 feet of the fan. Compliance with OSHA requires the lockable service disconnect on the side of the MCE is within line of sight of the motor.

2.5 Shielded Motor Cable

To minimize electromagnetic interference and stray voltage, each Skyblade fan includes 25 feet of shielded motor cable, cable glands, and a variable frequency drive with a built-in filter. The shielded motor cable connects the motor and variable frequency drive. This shielded system reduces the likelihood of broadcasting and receiving electronic noise which can interfere with radio and other sensitive equipment.

2.6 Check Compliance with Federal, State, and Local Codes

Check all relevant codes to make sure product certifications, product listings, and building regulations are met. Code compliance is the responsibility of the installer.

3.1 General Mounting

Each type of mounting system requires a specific mounting bracket. Most are available from Skyblade Fans. Check with the contractor, building owner, or architect to ensure the structure is sound and will support the weight of the fan before beginning installation. Skyblade Fans provides guidelines for mounting fans; however, it is the sole responsibility of the building owner and installer to ensure the safety of the mounting system, that the building structure is sound, and the installation complies with all federal, state, and local codes.

CAUTION/ATTENTION

When cutting or drilling into a wall or ceiling, take care not to damage electrical wiring or other utilities.

Lorsque vous coupez ou percez un mur ou un plafond, prenez garde à ne pas endommager les fils électriques ou d'autres services publics.

Select a location that is free from obstructions that may interfere with the fan's operation.

Choisissez un emplacement qui est libre de tout obstacle pouvant interférer avec le fonctionnement du ventilateur.

3.2 Weight

A Standard 1-horsepower 16 foot 6-blade fan and mounting assembly weighs about 250 pounds. In inverted-blade applications designed to blow air upward, there is an additional downward force of about 80 pounds due to fan thrust. We recommend applying a safety factor of 2 times the stated hanging weight of the fan when determining the capabilities of the building structure.

3.3 Torque

The maximum torque that must be handed by the mounting system and the building structure will occur at the fans startup. For a 16 foot fan, maximum potential startup torque is 300 ft-lbs. Skyblade Fans use a soft-start technology which allows the rpm to ramp up as desired over 60 seconds. The event of this max torque being applied is unlikely and will only apply due to a failure of the variable frequency drive and its soft start technology.

3.4 Safety Cable

A Skyblade fan should never be run without proper installation of Safety Cables. These are supplied with every fan. You must install safety cable for warranty to be in effect.

3.5 Guy Wires

While in operation a fan can sway due to minor imbalance or because of wind. Since the mounting system is capable of swiveling, it will not stop fan movement, so it is important that the guy wires be installed properly. Proper installation includes the angle and tension of the guy wires. See page 17-18 for more information.

3.6 Universal Mounting Hardware

We recommend mounting the fan to a horizontal structural beam, however, this is not always possible in buildings with pitched roof construction. For this reason, our universal mounting system is designed to allow the fan to hang in a level position perpendicular to the ground by rotating the upper yoke 90 degrees.

4

PREPARING THE WORK SITE

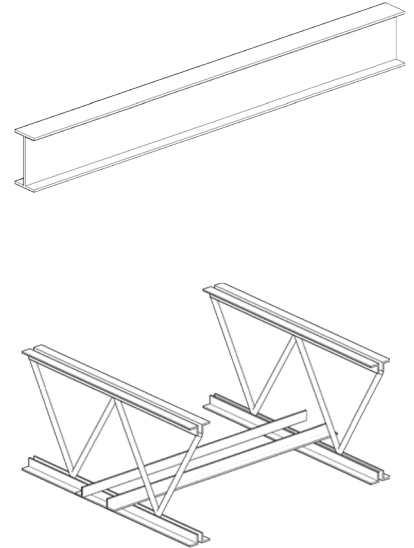
4.1 Mechanical Installation

A 24' (7.3m) STOL fan (our largest model) weighs, at maximum, 310 lbs (140kg). A scissor lift, or other suitable means for lifting and a minimum of two installation personnel, will be required.

Skyblade Fans can only be hung from an I-beam or angle irons. See installation instructions on the following page. Do not mount the fan to single purlins, trusses, or bar joists. Consult a structural engineer for installation methods not covered in the manual.

The fan installation area and path must be free of obstructions such as lights, cables, sprinklers, or other building structure. We strongly recommend not mounting the fan closer than 15% of its diameter to any object or its path.

Do not install the fan where it will be continuously subjected to high winds (ex. Under a high velocity HVAC system). Allow a required 2x the fans diameter between the fan and the HVAC (or other air-moving) equipment when measured from the center of the fan to the equipment.



⚠ CAUTION/ATTENTION

To reduce the risk of injury to persons, install the fan so that the blade(s) is at least 10 feet (3.05 meters) above the floor.

Pour réduire le risque de blessures, installez le ventilateur de sorte que la lame (s) est d'au moins 10 pieds (3,05 mètres) au-dessus du sol.

The spacing between multiple fans should be no less than 2.5x the fans diameter when measured from the center of the fans.

The mounting structure must be able to withstand the torque which is generated by the fan. A 20' diameter fan generates a maximum of nearly 300 ft-lb (406.7 N-m) of torque during operation.

IMPORTANT: After installation is complete, replace plug on gear reducer elbow with pressure release valve provided by SkyBlade Fan Company. Failure to install pressure release valve will void manufacturer warranty.

4.2 Electrical Installation

To reduce the risk of electrical shock, wiring should be performed by a qualified electrician. Incorrect assembly can cause electric shock or damage the motor and controller.

The installation of a Skyblade Fan must comply with the National Electrical Code, ANSI/NFPA 70-1999, and all local codes.

All unused conductors that share conduit with the AC supply feeds must be grounded on both ends.

If required, a local disconnect should be installed per NEC and all local codes.

Refer to specifications on page 24 for appropriate circuit requirements.

Each fan requires dedicated branch circuit protection.

⚠ WARNING/ AVERTISSEMENT



Support Directly From Building Structure.

All mounting instructions assume that the building structure from which the fan will be hung is of sound construction, undamaged, and capable of supporting loads of up to 650 lbs (295 kg). It is the sole responsibility of the customer to verify that the building's structure is adequate for fan installation. Skyblade Fans recommends consulting with a structural engineer prior to fan installation.

Aider directement à la structure du bâtiment.

Toutes les instructions de montage supposent que la structure du bâtiment à partir de laquelle le ventilateur sera pendu est de construction solide, en bon état, et capable de supporter des charges de jusqu'à 650 lb (295 kg). Il est de la seule responsabilité du client de vérifier que la structure du bâtiment est suffisante pour l'installation du ventilateur. Skyblade fans recommande de consulter un ingénieur en structure avant d'attiser installation.

⚠ CAUTION/ATTENTION

Install the "Clamping Shims" only if the thickness of the I-beam flange exceeds 3/8" (1cm). The mounting holes of the shim are closer to one side than the other. Make sure this side is facing the I-beam.

Installez les cales de serrage que si l'épaisseur de la semelle de la poutre supérieure à 3/8 "(1 cm). Les trous de fixation de la cale sont plus près d'un côté que de l'autre. Assurez-vous que ce côté est confronté à la poutre

5.1 Attach Upper Yoke (to I-Beam)

Measure the flange width of the I-beam you are wanting to hang the fan from. Compare the I-beam flange width to the diagram below to determine what mounting holes you will require.

Secure the upper yoke to the I-beam with the "Clamping Plate" hardware shown below. Tighten the bolts to 90 ft-lb, (122 N-m) using a 3/4" socket and torque wrench.

Proceed to "Hanging the Fan" on pg. 14.

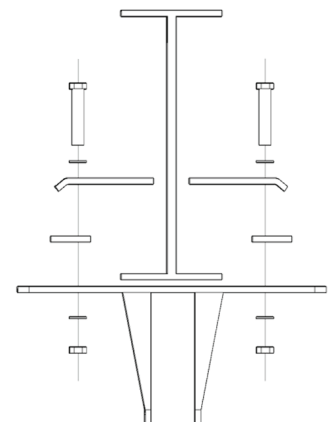
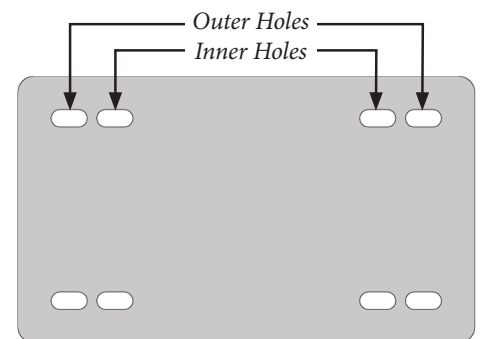
Clamping Plate Hardware (supplied):

- (4) 1/2"-13x2.5" Gr 8 Bolt
- (8) 1/2" Flat Washer
- (4) 1/2-13 Nylock
- (2) Clamping Plate
- (2) Clamping Shim

Upper Yoke

13-3/4" (45.7cm) x 8" (20.3cm)

I-Beam Flange Width	Upper Yoke Mounting Holes
5" (12.7cm)	inner holes
8-3/8" (21.2cm)	
>8-3/8" (21.2cm)	outer holes
9" (22.8cm)	



⚠ WARNING/ AVERTISSEMENT



Never use clamping plate or clamping shims when mounting the fan to angle irons!

Ne jamais utiliser la plaque de serrage ou des cales de serrage lors du montage du ventilateur à cornières!

Beam clamps are only intended for I-beam installations.

Serre-poutres sont uniquement destinées aux installations de faisceaux.

6.1 Select Proper Angle Irons:

NOTE: Angle Irons and angle iron hardware are not included with the fan.

⚠ CAUTION/ATTENTION

Do not install the fan from a single purlin, truss, or bar joist.

Ne pas installer le ventilateur à partir d'une seule panne, botte, ou solives.

Unsupported angle iron spans should not exceed 12' (3.7m).

Non pris en charge travées de fer d'angle ne doit pas dépasser 12 pi (3,7 m).

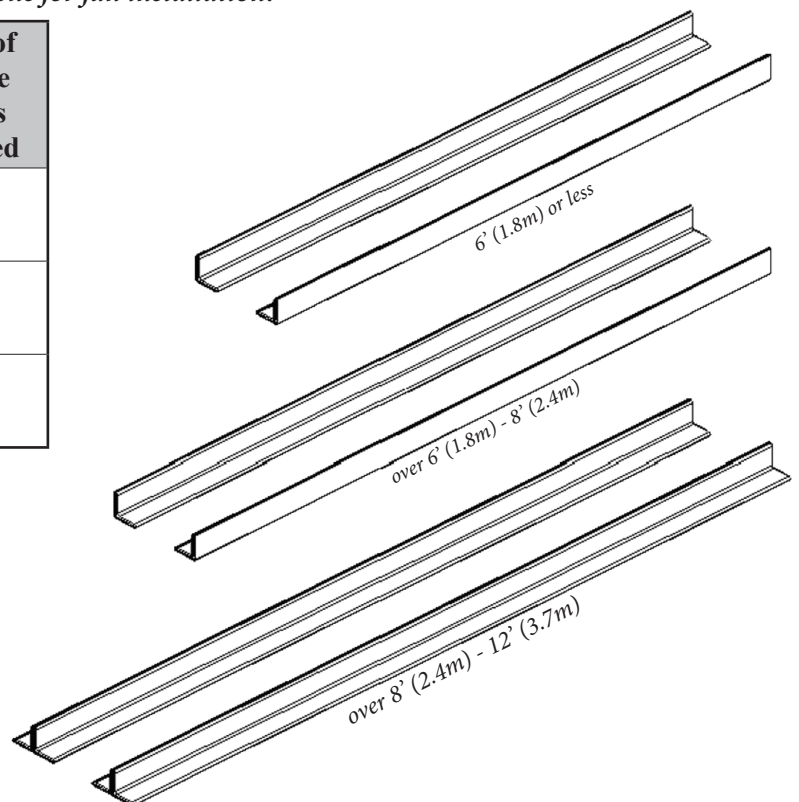
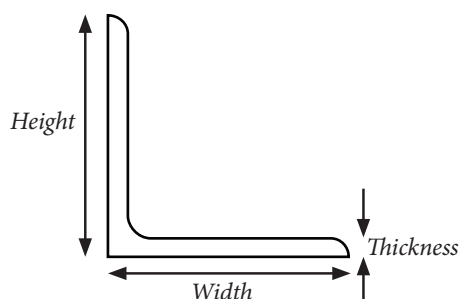
Do not install motor and hub assembly directly on angle iron.

Ne pas installer moteur et moyeu directement sur cornière.

Follow the table below when selecting angle irons for fan installation.

Angle Iron Span (between mounting point)	Minimum Angle Iron Dimensions (W x H x T)	Qty. of Angle Irons Needed
6' (1.8m) or less	2.5"(6.4cm) x 2.5"(6.4cm) x .25"(.6cm)	2
over 6' (1.8m) - 8' (2.4m)	3"(7.6cm) x 3"(7.6cm) x .25"(.6cm)	2
over 8' (2.4m) - 12' (3.7m)	3"(7.6cm) x 3"(7.6cm) x .25"(.6cm)	4*

*2 pairs of angle irons. Pairs should be placed back to back and fastened in center (see step 2).



6.2 Pre-Drill Angle Irons:

Drill two 9/16" (1.4cm) holes exactly 5-15/32" (13.8 cm) apart in the center of the two angle irons.

Measure the distance between the mounting points of the roof structure that the angle irons will span. Measure the same distance on the angle irons and drill 9/16" (1.4cm) diameter holes through each end of the angle irons. Drill holes in two angle irons if the span is 8' (2.4m) or less. Drill holes in 4 angle irons if span is greater than 8' (2.4m).

6.3. Fasten Angle Irons Together (if span is longer than 8')

If the angle iron span is 8' (2.4m) or less, proceed to step 6.4a on the following page.

If the angle iron span is longer than 8' (2.4m), it is necessary to use double angle irons.

Locate the center of the angle iron length. Drill 9/16" (1.4cm) diameter hole through the center of the vertical wall of the angle iron. Drilling through a total of four angle irons.

Place two drilled angle irons back to back. Fasten the angle irons together with customer supplied grade 8 hardware.

Align the angle irons to each other and tighten the bolts to 90 ft-lb (122 N-m) using a 3/4" socket with torque wrench.

Proceed to step 6.4b.

Grade 8 Hardware (Customer-Supplied)

- a. (2) 1/2"-13 bolt
- b. (4) 1/2" washers
- c. (2) 1/2" nut

6

MOUNTING METHOD 2: ANGLE IRONS

6.4a Fasten Single Angle Iron to Roof Structure Mounting Points:

If installation requires double angle irons (i.e., span is greater than 8'(2.4m)), proceed to step 6.4b.

⚠ CAUTION/ATTENTION

Do not install the fan from a single purlin, truss, or bar joist.

Ne pas installer le ventilateur à partir d'une même purlin, botte, ou solives.

The angle irons must be fastened to the roof structure at each end.

Les cornières doivent être attachés à la structure de toit à chaque extrémité.

Fasten the angle irons to the roof structure mounting points at each end with customer-supplied Grade 8 hardware as shown.

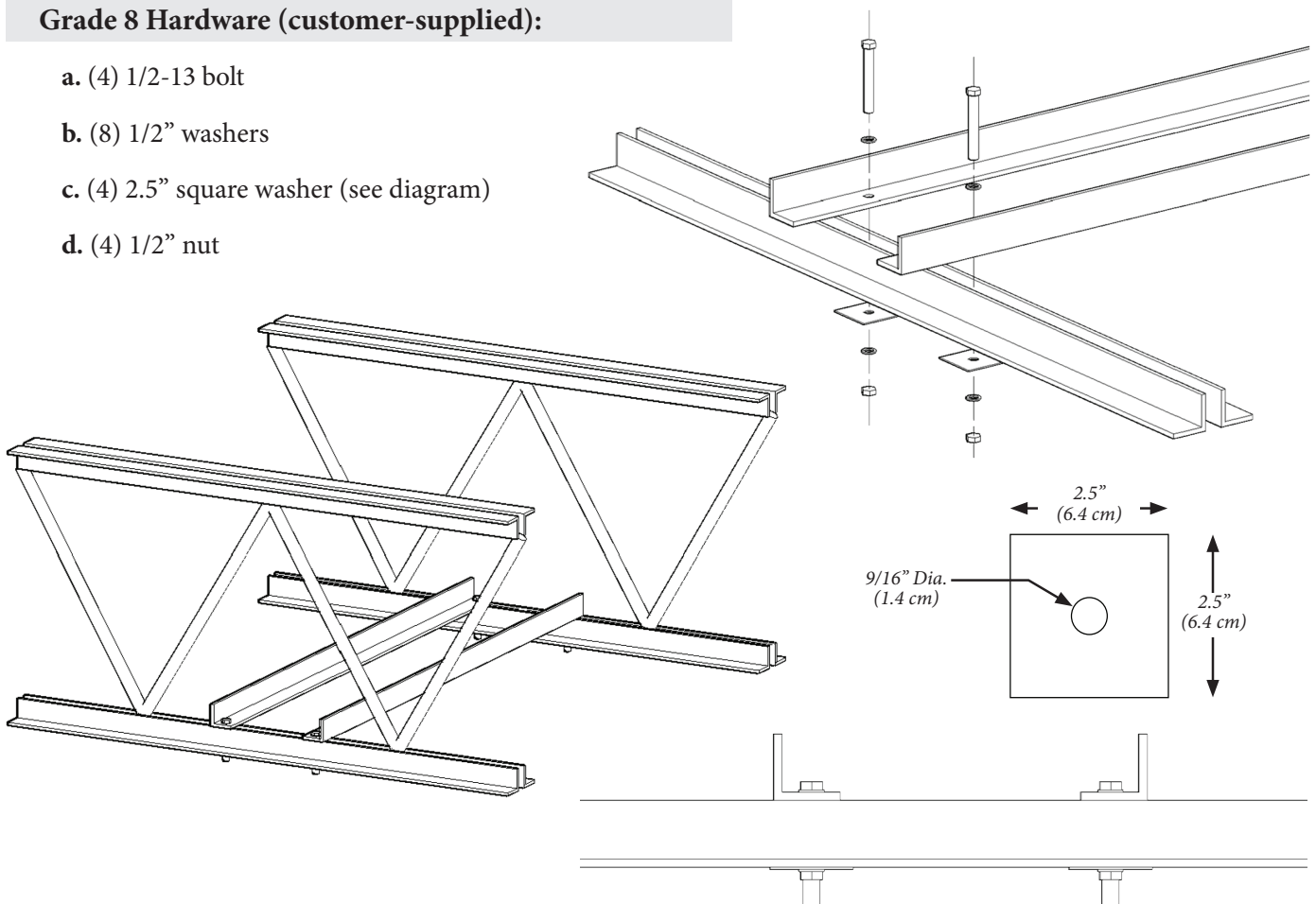
Fixer les cornières à la structure du toit de points de fixation à chaque extrémité fourni par le client matérielle la 8e année, comme illustré.

ATTENTION: Do not tighten the hardware until the upper yoke has been mounted to the angle irons.

Proceed to step 6.4b.

Grade 8 Hardware (customer-supplied):

- a. (4) 1/2-13 bolt
- b. (8) 1/2" washers
- c. (4) 2.5" square washer (see diagram)
- d. (4) 1/2" nut



6.4b Fasten Double Angle Irons to Roof Structure Mounting Points:

ATTENTION: Do not tighten the hardware until the upper yoke has been mounted to the angle irons.

⚠ CAUTION/ATTENTION

Do not install the fan from a single purlin, truss, or bar joist.

Ne pas installer le ventilateur à partir d'une même purlin, botte, ou solives.

The angle irons must be fastened to the roof structure at each end.

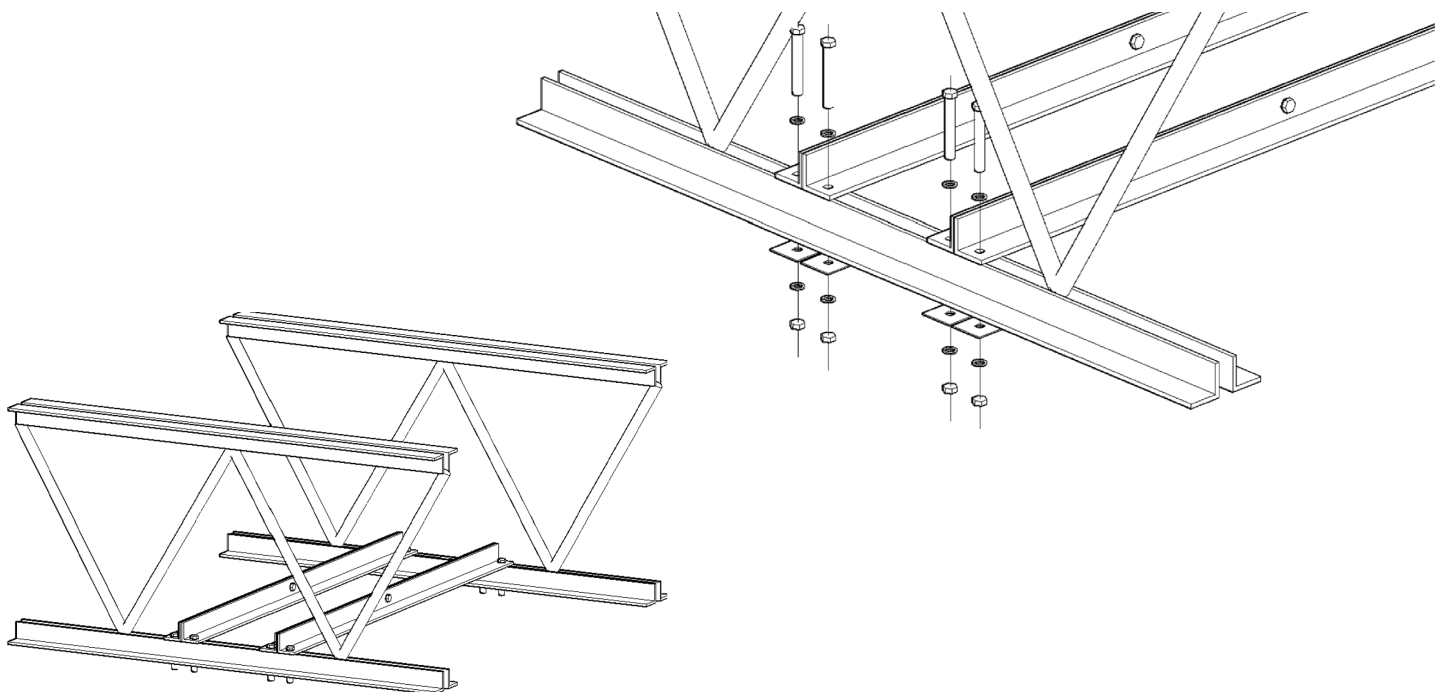
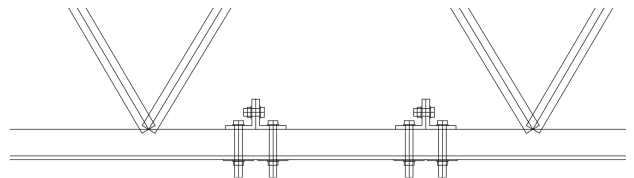
Les cornières doivent être attachés à la structure de toit à chaque extrémité.

Fasten the angle irons to the roof structure mounting points at each end with customer-supplied Grade 8 hardware as shown.

Fixer les cornières à la structure du toit de points de fixation à chaque extrémité fourni par le client matérielle la 8e année, comme illustré.

Grade 8 Hardware (customer-supplied):

- a. (4) 1/2-13 bolt
- b. (8) 1/2" washers
- c. (4) 2.5" square washer (see diagram)
- d. (4) 1/2" nut



6.5 Attach Upper Yoke (to Angle Iron):

Secure the upper yoke directly to the angle irons with the Beam Clamp hardware as depicted below. Consult the diagrams below for distances between the angle irons. Do not install the fan from a single purlin, truss, or bar joist.

Tighten bolts to 90 ft-lb (122 N-m) using a 3/4" socket and torque wrench.

⚠ CAUTION/ATTENTION

The angle irons should be aligned with the outermost holes of the upper yoke.

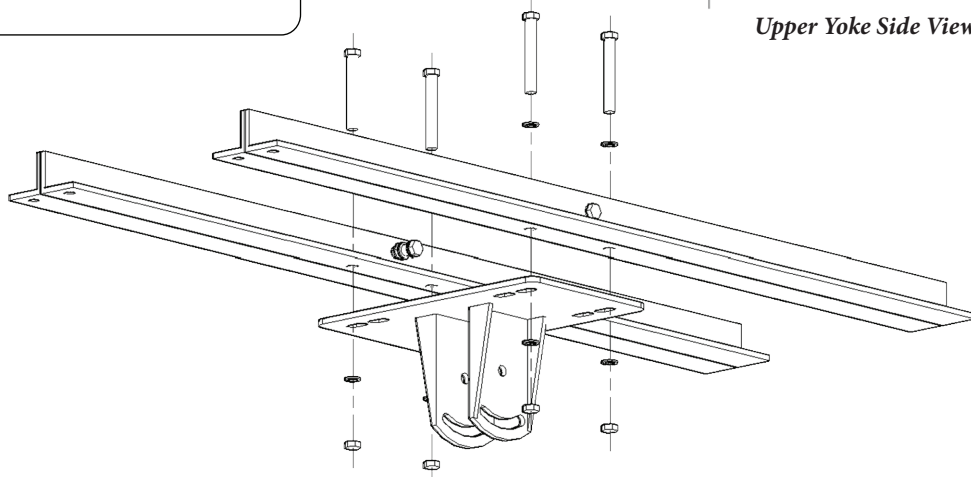
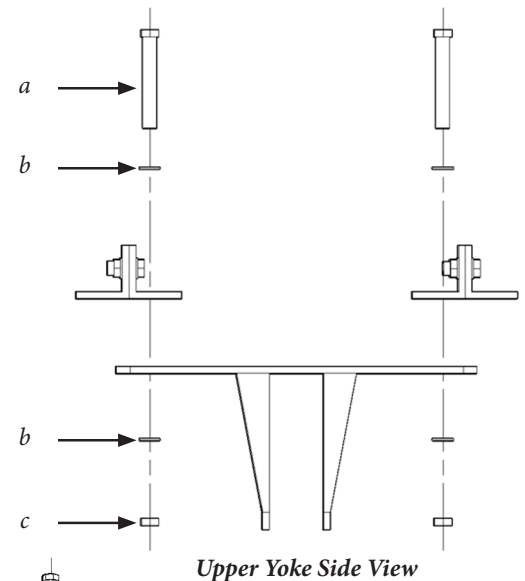
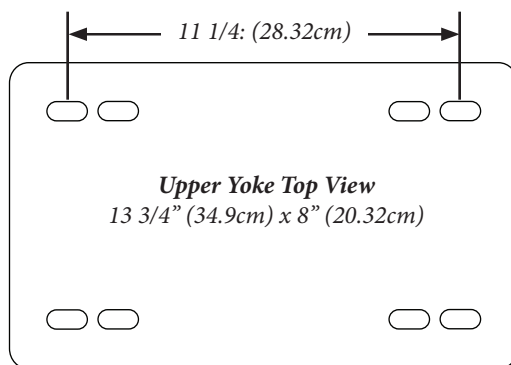
Les cornières devraient être alignées avec les trous extérieurs de la culasse supérieur.

After attaching upper yoke to the angle irons, tighten all the bolts securing the angle irons to the roof structure to 90 ft-lb (122 N-m) using a 3/4" socket with torque wrench.

Après l'avoir fixée culasse supérieure aux cornières, serrer tous les boulons de fixation des cornières à la structure du toit à 90 lb-pi (122 Nm) avec une "prise 3/4 avec une clé dynamométrique.

Beam Clamp Hardware (supplied):

- a. (4) 1/2-13x2-1/2" GR 8 Bolt
- b. (8) 1/2" Flat Washer
- c. (4) 1/2-13 Nylock



Before installation all set screws **must** be checked, and tightened where necessary, before installation.

7.1 Attach Extension Tube (to Upper Yoke):

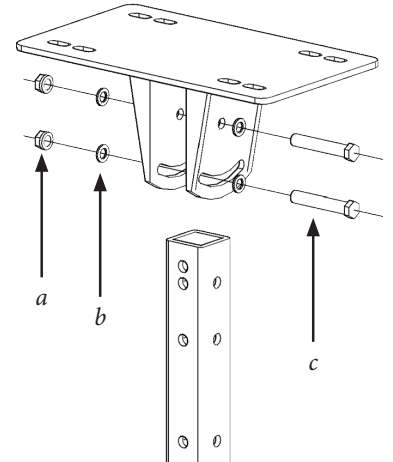
Attach the extension tube to the upper yoke with the hardware shown.

Before tightening the bolts, allow the fan to hang freely from the structure to allow the fan to rest perpendicularly from the floor.

Tighten bolts to 90 ft-lb (122 N-m) using a 3/4" socket and torque wrench.

Single Pivot Hardware (supplied):

- a. (2) 1/2-13 Nylock
- b. (4) 1/2" Flat Washer
- c. (2) 1/2-13 x 3-1/2" GR 8 Bolt



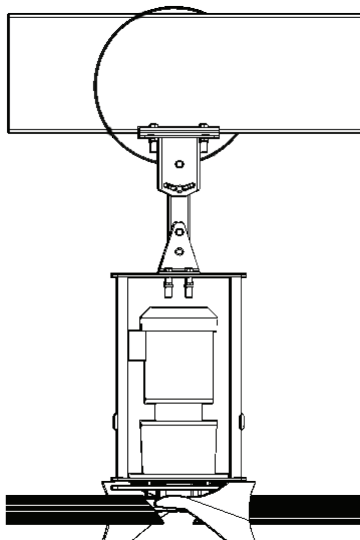
7.2 Secure Upper Safety Cable:

⚠ WARNING/ AVERTISSEMENT

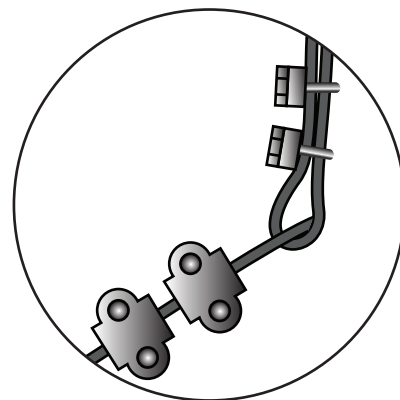
The safety cable is a critical safety feature of the fan and must be installed correctly.

Le câble de sécurité est une caractéristique de sécurité essentielle de la soufflante qui doit être installé correctement.

Secure the safety cable to the I-beam or angle iron by wrapping the safety cable around it, threading the cable through the 17/32" open hole on the top of the extension tube, and securing the ends with the galvanized rope clamps as shown. The cable must have as little slack as possible. Securely tighten the clamps.



Cable End Detail



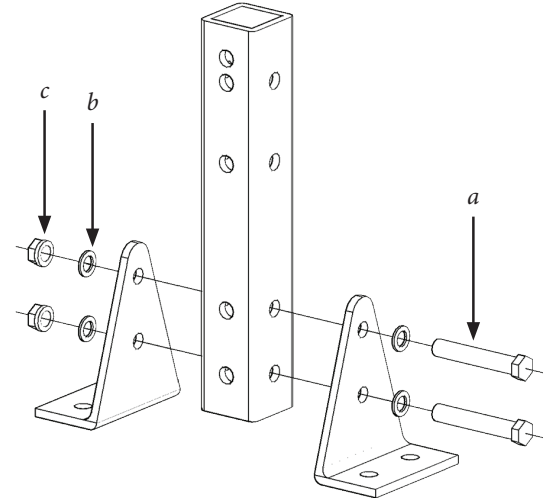
7.3 Attach Lower Yoke (to extension tube):

Attach the lower yoke to the bottom of the extension tube with the Lower Yoke Hardware as shown.

Tighten bolts to 90 ft. lbs. (122 N-m) using a 3/4" socket with torque wrench.

Lower Yoke Hardware (supplied):

- a. (2) 1/2-13x3-1/2" GR 8 Bolt
- b. (4) 1/2" Flat Washer
- c. (2) 1/2-13 Nylock



⚠ CAUTION/ATTENTION

The Motor Frame is heavy, use a minimum of two persons when raising it.

Châssis du moteur est lourd, utiliser un minimum de deux personnes lors de l'élevage.

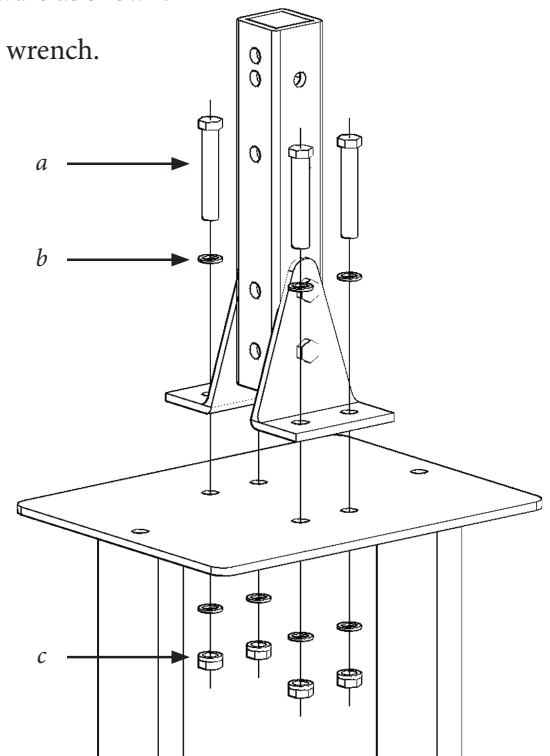
7.4 Attach Motor Frame (to lower yoke)

Attach the motor frame to the lower yoke with the Motor Hub Hardware as shown.

Tighten bolts to 90 ft. lbs. (122 N-m) using a 3/4" socket with torque wrench.

Motor Chassis Hardware (supplied):

- a. (4) 1/2-13x1-1/2" GR 8 Bolt
- b. (8) 1/2" Flat Washer
- c. (4) 1/2-13 Nylock



8.1 Installing the Guy Wires:

IMPORTANT! *Disregarding this step will void the manufacturer's warranty.*

The use of four guy wires, with two clamps per end (four per guy wire) is required. The angle formed by the guy wire and the ceiling must be less than 45 degrees from horizontal. Eye bolts (not supplied) are recommended to attach guy wires to the ceiling or beam.

Guy Wire Hardware Kit (supplied):

- a. Guy Wires
- b. Small Cable Clamps

It is recommended to use a level to confirm the fan is installed horizontal.

Use caution near sharp corners to avoid wear and/or fraying of the guy wires.

CAUTION/ATTENTION

Over-tightening the guy wires may cause the fan to become unbalanced.

Un serrage excessif des câbles de haubanage peut provoquer le ventilateur à devenir déséquilibré.

Guy wires should be spaced evenly around the fan and remain clear of the fan blade rotation path.

Les haubans espacer uniformément autour du ventilateur et restent dégagées de la voie de rotation de la pale de ventilateur.

Attach the guy wires to the ceiling or beam.

1. Slide two cable clamps (as supplied) over one end of the guy wire.
2. Feed the end of the guy wire through the eye bolt (not supplied) and then through the cable clamps.
3. Tighten the cable clamps securely, ensuring the u-bolt side is over the loose end of the cable.

Attach each guy wire to each loop on the lower section of the chassis.

1. Slide two cable clamps (as supplied) over the opposite end of the wire.
2. Feed the end of the guy wire through the guy wire loop on the fan and then through the clamps, removing any slack from the cable. Use a wrench to tighten and securely fasten clamps.

NOTE: Torque specification for wire rope clamps is 4.5 ft-lbs.

8

INSTALLING GUY WIRES

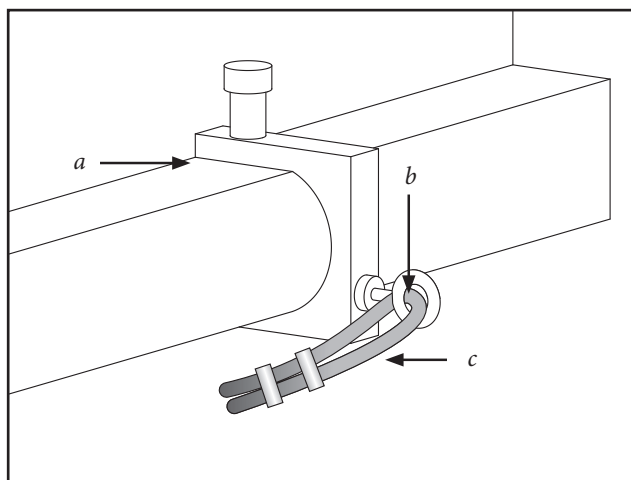
When all of the guy wires are taut, secure loose ends with wire rope clips (shown below). The wire rope clip nearest the eyebolt should create a loop of roughly 2" long. Locate the second rope clip 3" to 4" from the first clip. Trim the cables so no more than 1" to 3" extends from the last clamp.

⚠ WARNING/ AVERTISSEMENT

Make certain all electrical cords are not obstructed by guy wires.

Assurez-vous que tous les câbles électriques ne soient pas obstrués par des haubans.

Eye Hook

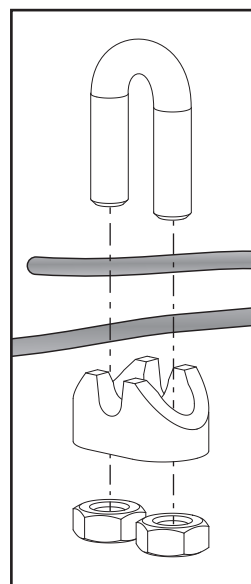


a Beam clamp

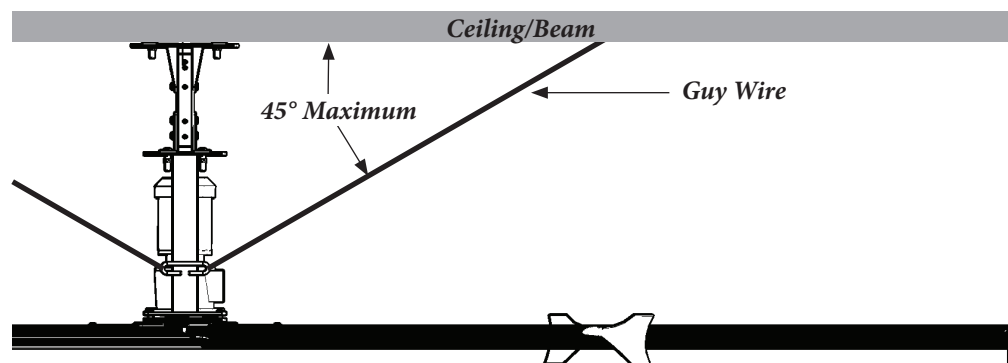
b Eye hook

c Wire rope

Wire Rope Clip



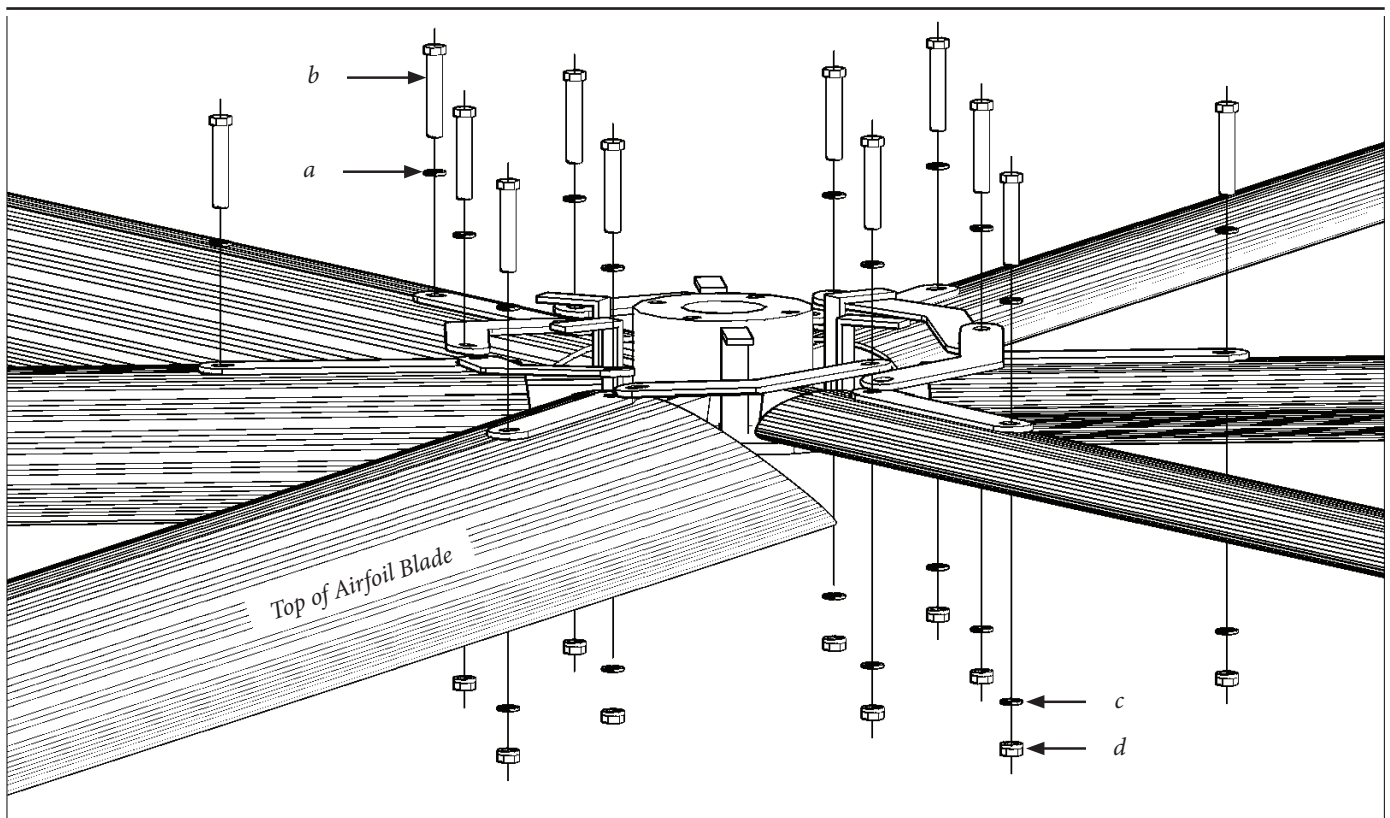
Guy Wire Maximum Angle



⚠ WARNING/ AVERTISSEMENT

To reduce the risk of personal injury, do not bend the blade brackets when installing the brackets, balancing the blades, or cleaning the fan. Do not insert foreign objects in between rotating fan blades.

Pour réduire le risque de blessure, ne pas plier les crochets lame lors de l'installation les crochets, l'équilibre entre les lames, ou de nettoyer la ventilateur. Ne pas insérer d'objets étrangers entre les pales du ventilateur.



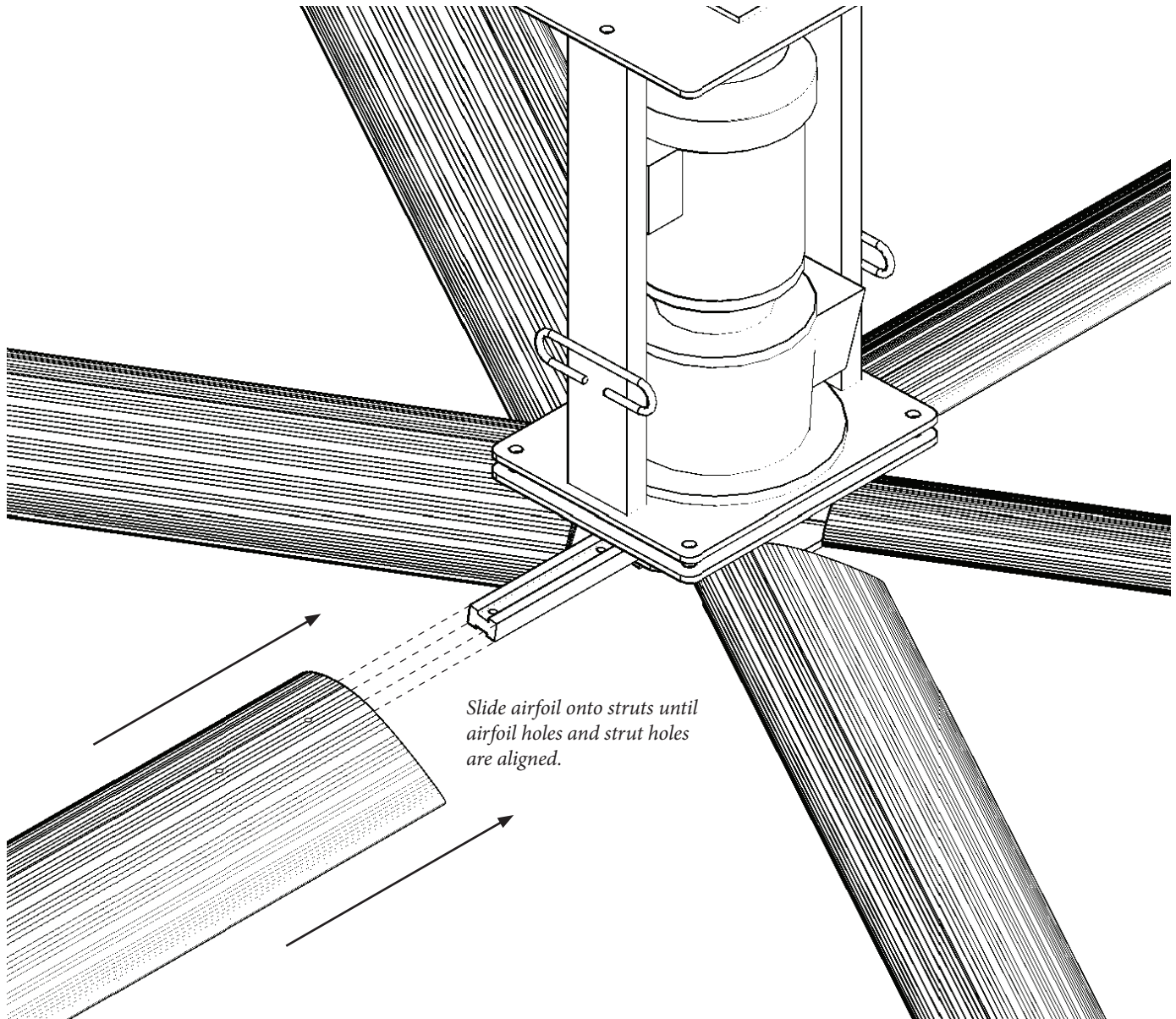
Airfoil Hardware Kit (supplied):

- a. (6) 5/16-18x2" GR 8 Bolt
- b. (6) 5/16-18x1-3/4" GR 8 Bolt
- c. (24) 5/16" Flat Washer
- d. (12) 5/16-18 Nylock

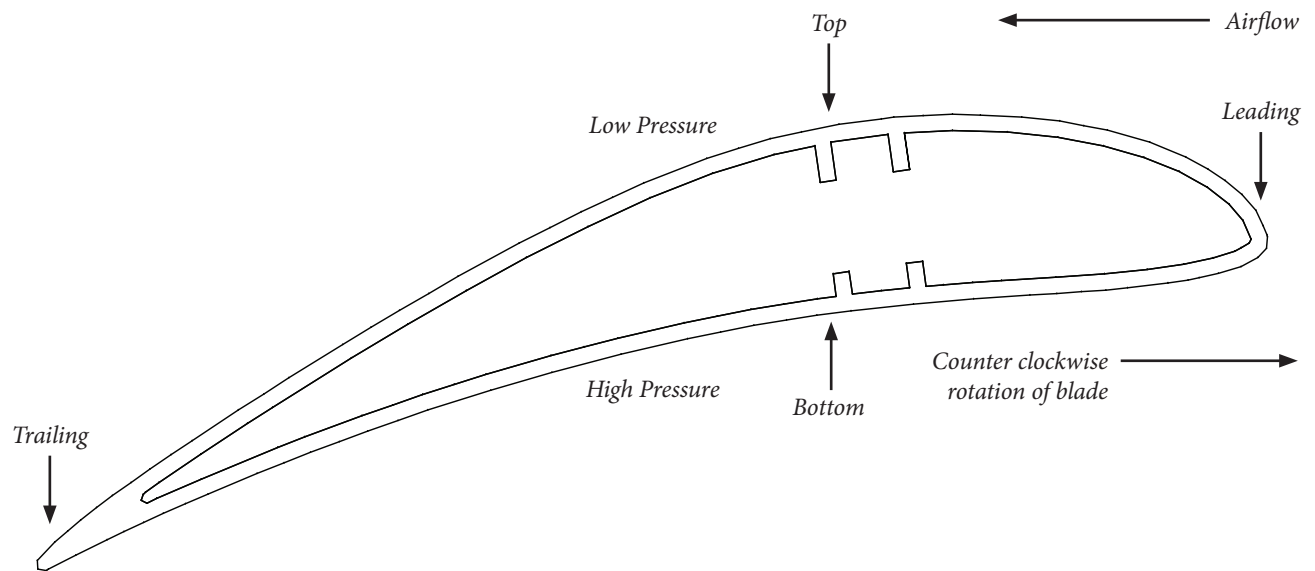
9

INSTALLING AIRFOILS

9.1a Attach Airfoils to Hub:



9.1b Attach Airfoils to Hub:



NOTE: Fan turns in counter clockwise rotation when looking up.

NOTE: Forward position on control blows air downward.

9.2 Attach Boomerang Brackets:

**WARNING/AVERTISSEMENT**

Disconnect power to the motor before installing the airfoils.

Débranchez l'alimentation du du moteur avant d'installer les profils aérodynamiques.

Do not tighten the bolts until all the airfoil Boomerang Brackets are attached.

Ne pas serrer les boulons jusqu'à ce que tous les parenthèses de boomerang aérodynamiques sont attachés.

Attach the Airfoil Boomerang Brackets using the Airfoil Hardware. Moving clockwise, position the Boomerang Brackets as specified.

Hole D & C rests on the airfoil.

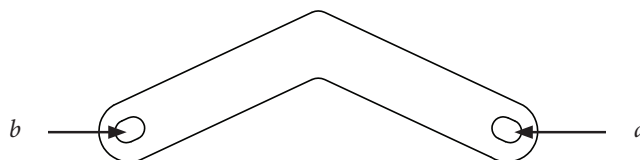
Hole A should be positioned over Hole B with Hole C along the outside and Hole D towards the inside.

First, tighten the bolts along the outside to 29 ft-lb(39 N-m) using a 1/2" socket with torque wrench.

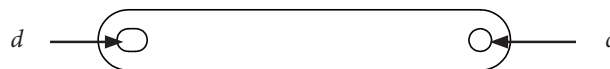
Second, tighten the bolts along the inside to 29 ft-lb(39 N-m) using a 1/2" socket with torque wrench.

Boomerang Bracket Kit (supplied):

- a. (6) 5/16-18x2" GR 8 Bolt
- b. (6) 5/16-18x1-3/4" GR 8 Bolt
- c. (24) 5/16" Flat Washer
- d. (12) 5/16-18 Nylock



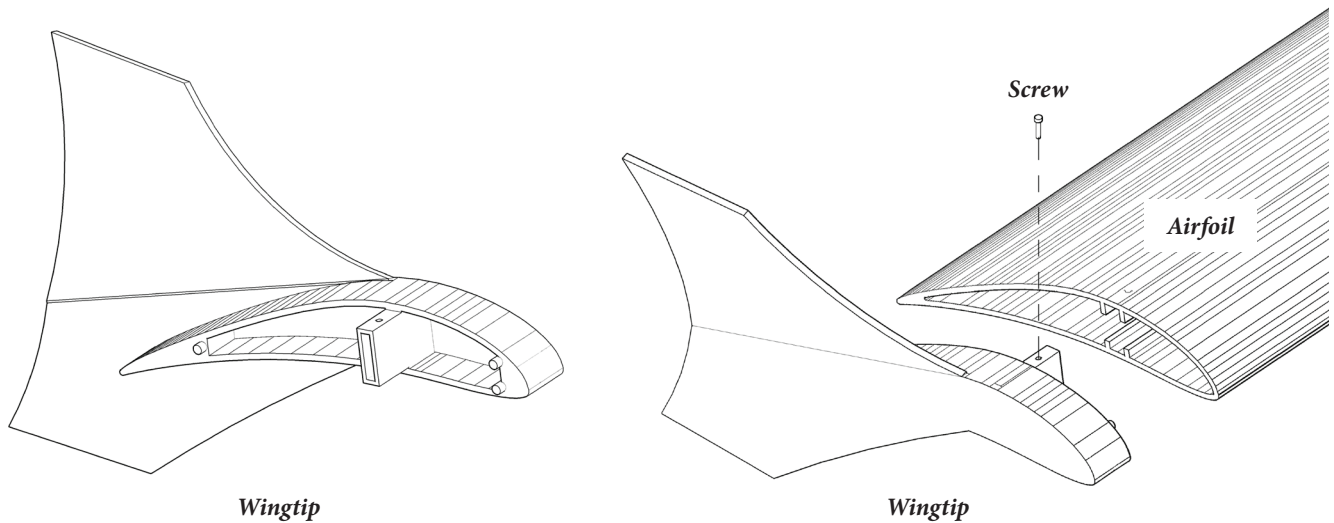
Airfoil Boomerang Brackets



Airfoil Straight Brackets

9.3 Wingtip Assembly

Install wingtips on end of airfoil after airfoil has been securely attached to the strut. Using a Phillips-head screwdriver, fasten wingtip to airfoil using a #6 x 5/8" Flat Phil Screw.



Wingtip Hardware Kit (supplied):

- a. (6) #6 x 5/8" Flat Phil Screw.

10.1 Power Requirements:

Input/Output Voltage	Input (Hz)	Input/Output Phase
115 / 230V	50 / 60 Hz	1-3 Phase
230 / 230V	50 / 60 Hz	1-3 Phase
230 / 230V	50 / 60 Hz	3-3 Phase
460 / 230V	50 / 60 Hz	3-3 Phase
575 / 230V	50 / 60 Hz	3-3 Phase

⚠ WARNING/AVERTISSEMENT



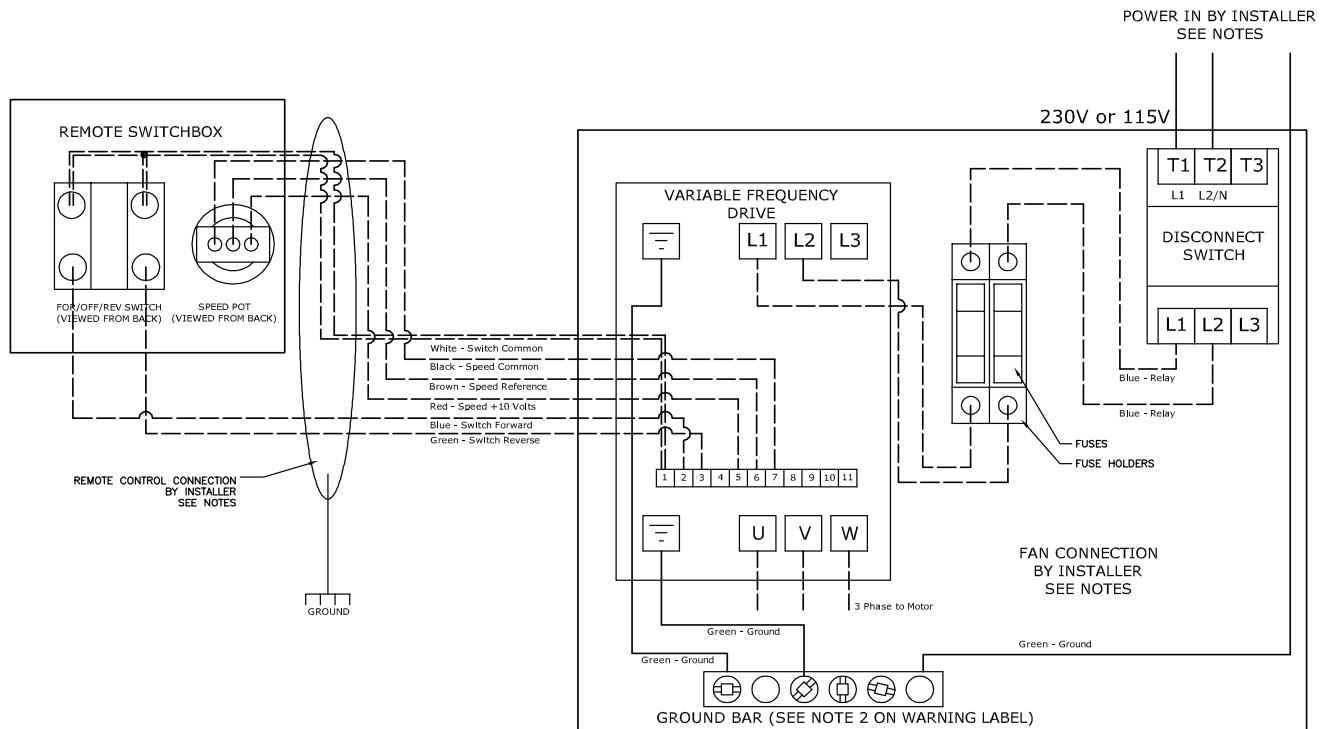
Motor cables and incoming power must never be run in the same conduit. Failure to install per SkyBlade Fans instructions, including wiring, may be hazardous, cause premature failure, and void the manufacturers warranty.

Les câbles moteur et de la puissance entrant ne doivent jamais être placés sur le même conduit. Ne pas installer par Skyblade ventilateurs instructions, y compris le câblage, peut être dangereuse, entraîner une défaillance prématurée, et annulera la garantie du fabricant.

NOTICE

Motor comes pre-wired from factory for incoming 230 Volt 3 Phase power.

1 Phase 115V-230V Wiring Diagram



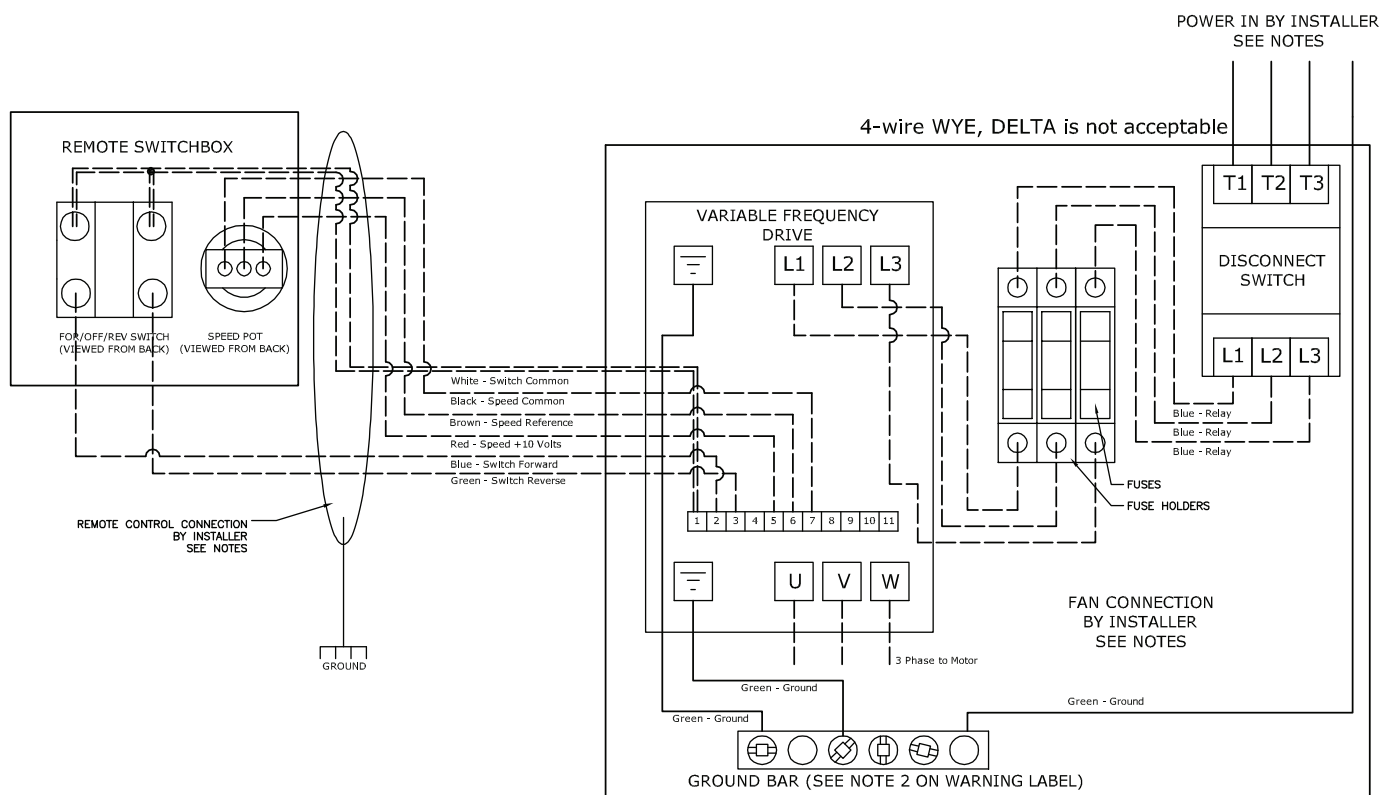
Notes/Remarques:

1. Fan should only be installed by qualified personnel in accordance with the NEC.
2. Proper grounding of panel and fan per the NEC is required for safety and proper operation.
3. Remote switch, remote cable, motor cable, and motor cable glands supplied by Skyblade Fans.
4. Length of cable from drive to motor to be 25 feet or less.
5. Length of cable from controller to switch box to be 100 feet or less.
6. VFD cable must be ran in conduit or raceway per NEC. Câble VFD doit être exécuté dans un conduit ou chemin de roulement par NEC.
7. This page for illustration purposes only. For all installations, refer to the control panel schematic packaged inside the MCP.

If fan does not rotate CCW when looking up, reverse rotation by interchanging the line leads between the motor and the Variable Frequency Drive.

After making wire connections, the wires should be spread apart with the grounded conductor and on one side of the outlet box and the ungrounded conductor on the other side of the outlet box. After splices are made, turn upward and carefully push up into the outlet box.

Supply Connections: Conductor of a fan identified as grounded conductor to be connected to an ungrounded conductor of power supply, conductor of fan identified for equipment grounding to be connected to an equipment grounding conductor.

3 Phase 230V-460V-575V Wiring Diagram

⚠ WARNING/AVERTISSEMENT**Electrical Shock Hazard.****RISQUE D'ÉLECTROCUTION.**

To reduce the risk of electrical shock, wiring should be performed by a qualified electrician. Incorrect assembly can cause electrical shock or damage the motor and the controller.

Pour réduire le risque d'électrocution, le câblage doit être effectué par un électricien qualifié. Assemblage incorrect peut provoquer des chocs électrique ou endommager le moteur et le contrôleur.

To reduce the risk of fire or electrical shock, do not use this fan with any solid-state speed control device.

Pour réduire le risque d'incendie ou de choc électrique, ne pas utiliser ce ventilateur avec un dispositif de contrôle de vitesse à l'état solide.

The installation of a SkyBlade Fan must be in accordance with the National Electrical Code, ANSI/NFPA 70-1999, and all local codes. The procedures and techniques outlined in this manual are merely a guide for proper installation. Code compliance is YOUR responsibility. Failure to comply with these codes could result in personal injury or property damage.

L'installation d'un ventilateur Skyblade doit être en conformité avec le National Electrical Code, ANSI / NFPA 70-1999, et tous les codes locaux. Les procédures et les techniques décrites dans ce manuel sont seulement un guide pour une installation correcte. Respect du Code est de VOTRE responsabilité. Le non respect de ces codes peut entraîner des blessures ou des dommages matériels.

The fan controllers contain high voltage capacitors which continue to hold a charge after removal of its main supply. Before working on the fan controller, ensure isolation of mains supply from line inputs at the fan controllers disconnect (L1, L2, L3). Wait three (3) minutes for capacitors to discharge to safe voltage levels. Darkened display LEDs are NOT an indication of safe voltage levels. Failure to do so may result in personal injury or death.

Les contrôleurs de ventilateur contiennent des condensateurs à haute tension qui continuent de à tenir la charge après le retrait de son alimentation principale. Avant de travailler sur le contrôleur de ventilateur, assurer un isolement de l'alimentation secteur à partir d'intrants ligne à l'contrôleurs fan de déconnexion (L1, L2, L3). Attendre trois (3) minutes pour condensateurs se déchargent à des niveaux de tension non dangereux. LED d'affichage sombres sont pas une indication des niveaux de tension non dangereux. Ne pas le faire beaucoup causer des blessures ou la mort.

⚠ CAUTION/ATTENTION

An incorrectly installed controller can result in component damage or reduction in the fan's life. Wiring or application errors such as under-sizing the controller, incorrect or inadequate AC supply, or excessive ambient temperatures may result in a malfunction of the fan system. Verify correct voltage, phase, and horsepower before beginning installation.

Un contrôleur mal installé peut entraîner des dégâts matériels ou la réduction de la durée de vie du ventilateur. Câblage ou d'application des erreurs telles que le sous-dimensionnement du contrôleur, une alimentation ca incorrecte ou inadaptée ou des températures ambiantes excessives peuvent provoquer un dysfonctionnement du système de ventilation. Vérifiez que la tension correcte, la phase et puissance avant de commencer l'installation.

⚠ WARNING/AVERTISSEMENT

Exercise caution and common sense when powering the fan. Do not connect the fan to a damaged or hazardous power source. Do not attempt to resolve electrical malfunctions or failures on your own. Contact SkyBlade Fans at 1-586-806-5107 if you have any questions regarding electrical installation of this fan.

Faites preuve de prudence et de bon sens lorsque vous alimentez le ventilateur. Ne pas brancher le ventilateur à une source d'alimentation endommagé ou dangereux. Ne pas tenter de résoudre les dysfonctionnements électriques ou des échecs sur votre propre. Contactez Skyblade fans au 1-586-806-5107 si vous avez des questions concernant l'installation électrique de ce ventilateur.

⚠ CAUTION/ATTENTION

For use with manufacturer supplied variable frequency drive only.
Not for use with other speed control devices.

Pour une utilisation avec le fabricant fourni entraînement à fréquence variable seulement.
Ne pas utiliser avec d'autres appareils de contrôle de vitesse.

To avoid a short circuit, be very careful not to get metal chips in the control.

Pour éviter un court-circuit, faire très attention de ne pas obtenir des copeaux de métal dans le contrôle.

The SkyBlade Fan product warranty will not cover equipment damage or failure that is caused by improper installation.

La garantie des produits Skyblade Fan ne couvrira pas les dommages à l'équipement ou de l'échec qui est causé par une mauvaise installation.

⚠ WARNING/AVERTISSEMENT**Electrical Shock Hazard.
RISQUE D'ÉLECTROCUTION.**

Risk of fire, electric shock, or injury to persons during cleaning and user-maintenance!
Disconnect the appliance from the power supply and allow sufficient time for electrical discharge before servicing.

Risque d'incendie, de choc électrique ou de blessures lors du nettoyage et de l'entretien par l'utilisateur!
Débranchez l'appareil de l'alimentation et laissez suffisamment de temps pour la décharge électrique avant l'entretien.

Before servicing or cleaning unit, switch power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally.

Avant de réparer ou de nettoyer l'appareil, coupez l'alimentation électrique au panneau de service et bloquez les dispositifs de sectionnement pour éviter une mise en marche accidentelle.

When service or replacement of a component in the fan requires the removal or disconnection of a safety device, the safety device is to be reinstalled or remounted as previously installed.

Lorsque le service ou le remplacement d'un composant dans le ventilateur nécessite le retrait ou la déconnexion d'un dispositif de sécurité, le dispositif de sécurité doit être réinstallé ou remonté comme précédemment installé.

1. Fan shakes while in use.

Shaking may be caused by a variety of problems, such as installing the fan in an open-sided structure causing a draft. In this case it may be necessary to secure additional restraints. Check the torque on all fasteners by using a calibrated torque wrench, DO NOT loosen and re-torque fasteners. If problem persists, please call the factory for assistance.

2. Fan will not start.

Ensure that the disconnect switch on the controller box is in the ON POSITION. Check the controller and motor electrical power leads for tightness. If the problem persists, have a qualified electrician troubleshoot the wiring.

3. Fan rotates in the wrong direction.

The fan should rotate in a counterclockwise direction when viewed from below. If this is not the case, ensure that both the controller and remote switch box are wired correctly.

4. The fan controller makes radio frequency (RF) noise.

The fan controller can generate RF noise in many ways, but this noise can be prevented by following the proper wiring practices outlined in the "Electrical Installation" section.

- a. Ensure proper grounding at the motor, controller, and from the controller to the supply.
- b. Do not run your controller and sensitive equipment on the same power line.
- c. Install properly sized EM/RFI filter.
- d. Contact Customer Service at 1-586-806-5107.

5. Error code appears on VFDs digital interface.

Please contact Skyblade Fans customer service to resolve issue.

⚠ WARNING/AVERTISSEMENT

Risk of fire, electric shock, or injury to persons during cleaning and user-maintenance!
Risque d'incendie, de choc électrique ou de blessures lors du nettoyage et de l'entretien par l'utilisateur!

Disconnect the appliance from the power supply and allow sufficient time for electrical discharge before servicing.

Débranchez l'appareil de l'alimentation électrique et laissez suffisamment de temps pour la décharge électrique avant l'entretien.

Before servicing or cleaning unit, switch power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally.

Avant de réparer ou de nettoyer l'appareil, coupez l'alimentation électrique au panneau de service et bloquez les dispositifs de sectionnement pour éviter une mise en marche accidentelle.

When service or replacement of a component in the fan requires the removal or disconnection of a safety device, the safety device is to be reinstalled or remounted as previously installed. Failure to comply may result in serious personal injury.

Lorsque le service ou le remplacement d'un composant dans le ventilateur nécessite le retrait ou la déconnexion d'un dispositif de sécurité, le dispositif de sécurité doit être réinstallé ou remonté comme précédemment installé. Le non-respect peut entraîner des blessures graves.

Replacing the Fuse:

1. Grasp plug and remove from the receptacle or other outlet device. **Do not** unplug by pulling on cord.
2. Open fuse cover by pulling outward on the top lever.
3. Remove fuse carefully by pulling up on the exposed fuses.
4. **Risk of fire.** Replace fuse only with 25 Amp, 600 Volt ATMR25 Fast Acting Class C fuse.
5. Close fuse cover by pushing down on the top lever until completely closed.

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Maintenance Checklist:

1. Ensure all mounting bolts are present and torqued to 90 ft-lb (122 N-m) using a calibrated torque wrench.
2. Ensure all bolts securing airfoils to the struts are present and torqued to 29 ft-lb (39 N-m) using a calibrated torque wrench.
3. Inspect motor terminations inside junction box and ensure their tightness.
4. Check all connections of the fan controller and ensure their tightness.
5. Ensure airfoils are secured to one another by boomerang brackets.
6. Ensure screws securing wingtip fences to airfoils are tight.
7. Check to see if gear reducer is leaking, if so please contact customer service at 1-586-806-5107.
8. Check for the presence of the safety cable and wire rope clips. The cable should be wrapped around the I-beam or angle irons, leaving as little slack as possible. The wire rope clips should be securely fastened on the top side of the I-beam or angle irons.
9. Administer proper cleaning techniques such as dusting airfoils, motor, reducer and chassis. If desired, used a water based cleaner to polish airfoils.

13

[illegible]

If you have any questions, please contact customer service at **1-586-806-5107**.



SkyBlade
FAN COMPANY

WHERE FORM FOLLOWS FUNCTION

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